Fall Semester

9/5

Information: Goals of class

Skills: Bash environment, directory hierarchy. Software setup. Server. For loop.

Assignment: Setup software on local machine

Assignment: For loop (bash)

9/12

Information: Proton & signal -> voxels -> dicom

Skills: Strings, pathways, variables. Dcm2nii. Nested loops

Assignment: Render/organize study T1s

Assignment: Read heterogeneous templates

Assignment: Nested loops (bash)

9/19

Information: What is, coordinate spaces, limitations (age/sex).

Skills: Super computer. Template construction. Conditionals.

Assignment: Build template

Assignment: conditional statements (bash)

9/26

Information: Masks (whole brain, tissue type)

Skills: Prior construction (brain masks). Arrays.

Assignment: Render ACT priors

Assignment: Find regions of interest for memory ROI analysis

Assignment: Arrays, counters (bash)

10/3 – Conference!

10/10

Information: ROI segmentation

Skills: Prior construction (ROI masks). Functions.

Assignment: Render JLF priors

Assignment: Functions (bash)

10/17

Information: BOLD, signal/HRF, contrast in designs

Skills: Slice-time, volume registration, alignment, motion files. Basic regex.

Assignment: Read registration paper

Assignment: Preprocess data

Assignment: Regex (bash)

10/24

Information: Registration, moving priors, matrix algebra

Skills: Registration, Skull-strip. SED, AWK

Assignment: Register and skull-strip data

Assignment: SED, AWK (bash)

10/31

Information: Study info -> timing files

Skills: Timing files, Deconvolution

Assignment: Create timing files, deconvolve data

11/7 **Nate at conference**

Information: Why blur/move to template space

Skills: Blur, Normalization

Assignment: now do it

11/14

Information: what is β

Skills: ROI analysis

Assignment: segment, pull βs, run stats on βs.

Assignment: read Eklund, Cox

11/21 – Thanksgiving Break

11/28

Information: Modelling noise. RFT vs ACF

Skills: Multiple comparison correction

Assignment: Run ACF

12/5

Information: Explanation of MVM

Skills: MVM analysis

Assignment: Run MVM

12/12

Information: Explanation of MVM

Skills: MVM analysis, cont’d

Assignment: Get clusters, pull βs, run stats